EXPLANATION OF SIGNIFICANT DIFFERENCES FOR THE RECORD OF DECISION MARTHA C. ROSE CHEMICALS SITE

Introduction

1. The Martha C. Rose Chemicals site is located in Holden, Missouri.

2. The United States Environmental Protection Agency (EPA) is the lead agency, and the Missouri Department of Natural Resources (MDNR) is the support agency.

3. Under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. Section 9617(c), if any remedial action is taken and such action differs in any significant respect from the final remedial plan, EPA is required to publish an explanation of the significant differences and the reasons such changes were made.

4. One component of the final remedial action selected in the Record of Decision (ROD) issued in March 1992 was a requirement for ten years of ground water monitoring to ensure the effectiveness of the remedy that was implemented. Upon review of the Final Remedial Report, ground water monitoring data, the Remedial Investigation Report and other pertinent information contained in the Administrative Record, EPA has reached the conclusion that the ten years of ground water monitoring at the site is no longer necessary since ground water at the site is not an exposure pathway and there appears to be no potential for any adverse effect to human health or the environment from the discharge of the ground water.

5. This ESD will become a part of the Administrative Record.

6. The Administrative Record will be maintained at the Holden City Hall in Holden, Missouri, and is available between 9:00 a.m. and 5:00 p.m. week days. The record will also be kept in the Region 7 EPA Office at 726 Minnesota Avenue, Kansas City, Kansas, and is available for review between 8:00 a.m. and 4:30 p.m.

Summary of Site History, Contamination Problems, and Selected Remedy

1. Site History

The Martha C. Rose Chemicals site is the site of a former polychlorinated biphenyl (PCB) brokerage, processing and treatment facility which operated between 1982 and 1986. The site is located on an estimated 11-acre piece of property and included two large warehouses and a nearby tributary and creek. Following the company's abandonment of the site in March 1986, a group of potentially responsible parties (PRPs), referred to as the Rose Chemicals Steering Committee (RCSC), entered into two CERCLA Administrative Orders on Consent (AOC) for the purpose of conducting necessary removal actions. Work under the two AOCs resulted in the removal of the warehouses' contents, including numerous tanks containing PCB liquids and several million pounds of PCB electrical equipment, and the characterization of the site in a Remedial Investigation and Feasibility Study (RI/FS). Following the public comment period on the June 20, 1991, Proposed Plan, EPA issued the Record of Decision (ROD) on March 6, 1992. On September 2, 1992, EPA issued a CERCLA Section 106(a) Unilateral Administrative Order to members of the RCSC requiring the PRPs to implement the remedial action selected in the ROD. Except for completion of the ten-year ground water monitoring requirement, the remedial actions selected in the ROD have been completed.

2. The site was originally contaminated with PCBs and volatile organic compounds (VOCs). The shallow ground water at the site is contaminated with VOCs. The contamination addressed by the ROD included: 1) PCB contamination in sediment in an intermittent tributary to East Pin Oak Creek and in sediments in East Pin Oak Creek; 2) PCB contamination in surface and subsurface soils at the site; and 3) PCB contamination in the two large warehouses, including concrete floor slabs, insulation, structural components of the buildings and soils beneath the floor slabs. The site has been cleaned up in accordance with the requirements of the ROD. The clean up resulted in the removal of significantly more contaminated soil than was anticipated, exceeding the action levels in the ROD. Ground water monitoring was required to determine the effectiveness of the remedy.

3. The remedy selected in the ROD called for the following:

   a. Removal and off-site treatment and/or disposal of all PCB-contaminated soil;

   b. Demolition and removal and off-site treatment and/or disposal of all PCB-contaminated concrete slabs and support structures;

   c. Removal and off-site treatment and/or disposal of all PCB-contaminated sediment in adjacent watercourses to bedrock or four feet, whichever was greater;

   d. Placement of a minimum ten-inch clean soil cover over the eastern half of the site. This is the area where the soil and building removal took place;

   e. Contouring and seeding the site;

   f. Restricting the construction of ground water wells on the site, except for monitoring purposes; and

   g. Monitoring the ground water for ten years to ensure that the remedy did not release unknown pockets of PCB contamination.

Description of Significant Differences and the Basis for those Differences

1. The RCSC has completed the actions required in the ROD with the exception of the required ground water monitoring for ten years. The primary objectives of the monitoring program were to: 1) confirm that the concentrations of PCBs and VOCs had not increased in the ground water at the site; and 2) confirm that no PCBs or VOCs had mobilized by the remediation activities at the site. By letters dated December 1, 1995, and November 18, 1996, the RCSC submitted a proposal to amend the Remedial Action Work Plan to terminate the ground water monitoring program and decommission the monitoring wells at the site. Based upon the RCSC's evaluation of the two rounds of sampling that followed site remediation, it was concluded that the objectives of ground water program had been reached and that there was no reasonably likelihood of a threat to human

health or the environment from any remaining contaminants at the site. This evaluation was based upon several factors, including:

a. To ensure the soil clean-up level of ten parts per million (ppm) PCBs at the site was achieved, it was necessary to excavate soils to concentrations lower than ten ppm; typically resulting in a clean-up level of approximately one ppm. Areas at the site with VOC contamination were also excavated. Residual contaminates in site soils will continue to migrate via the perched water to an unnamed tributary and to East Pin Oak Creek in small quantities insufficient to cause exceedences of the ambient water quality criteria or other unacceptable risks;

b. The Baseline Risk Assessment (BRA) indicated that the potential threats to human health and the environment at the site came from potential exposures to PCB contamination in soils, sediment, and buildings. These areas have been excavated or removed. The RI/FS and BRA concluded that ground water was not a viable pathway for potential exposure for any current or future use scenario because of the very low flow rates in the surficial aquifer. In addition, a letter dated March 12, 1991, from the Missouri Department of Natural Resources (MDNR) states that the shallow groundwater at this site is not an useable aquifer; and

c. In site sampling events, PCBs were detected infrequently at low concentrations. In general, VOCs, that had originally been detected in the ground water at the site, were detected in similar or lower concentrations in subsequent sampling events. Because the ground water is not a viable pathway for exposure due to the low flow rates in the surficial aquifer, and because deed restrictions have been placed on site property to prohibit the installation of wells for any purpose other than monitoring, the presence of any low concentrations of PCBs or VOCs in the shallow aquifer does not constitute a significant threat to human health or the environment.

2. The only significant difference between the remedy as presented in the ROD and this action is to terminate the ground water monitoring.

Support Agency Comment

The State of Missouri does not concur with the proposal to terminate the ground water monitoring. The following is a summary of the state's comments and EPA's responses to those comments.

1. The Missouri Department of Health (MDOH) has expressed concern that the site was never tested for dioxins and furans. All PCB-contaminated materials with levels above ten ppm have been removed from the site. Based upon available scientific literature and the degree of cleanup that was conducted by the RCSC, the maximum level of dioxins and furans that can be expected to remain at the site, if any, would be approximately 0.01 ppb tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) equivalents or two orders of magnitude below the clean-up level for dioxin.

2. A second issue concerns the VOCs that were detected in site soils and whether source removal for VOCs was accomplished. Although no stated source removal for VOCs was specifically incorporated into the Remedial Design, the PCB and VOC contamination was generally co-located and significant soil removal did occur. All areas where surface and subsurface soils were found to be contaminated by VOCs were excavated to a depth of at least ten inches and backfilled. VOCs were not considered to be contaminants of significant concern at the site due to the relative low levels found in the soils and the fact that the ground water was not considered to be a completed pathway for exposure. Since any remaining VOCs will be at depth, direct contact is not a threat; and it has already been determined that the ground water is not a completed exposure route for VOCs. VOC contamination does not present a risk at this site. Subsurface soil analysis revealed levels of VOC contamination generally a magnitude or greater less than EPA's removal action limits. Since ground water is not a completed exposure route, EPA does not consider the monitoring of the ground water for VOCs as necessary to protect human health and the environment.

3. Another area of concern raised by the state was the low-level PCB contamination located along McKissock Street, at which no excavation was performed. Eight grids were sampled adjacent to McKissock Street. Sample analytical results indicated PCBs in three grids were below detection limits. Two grids each had total PCBs of 0.6 ppm each. The other three grids had 1.8 ppm, 3.4 ppm, and 2.1 ppm. The trigger level for cleanup of soils at residential properties as

stated in the ROD is ten ppm, which is consistent with EPA's PCB Spill Cleanup Policy contained in Subpart G of 40 C.F.R. Part 761. The EPA believes the low levels of PCBs located along McKissock Street do not present a risk to human health or the environment warranting a cleanup and has no bearing on the decision whether to continue or terminate ground water monitoring.

4. The state has expressed concern that past sampling events at the site may have been inconsistent in terms of not collecting samples from all wells during each sampling event and not analyzing each sample for all PCB aroclors. The EPA does not believe any substantial inconsistency in sampling or analysis has occurred which would result in unknown risks remaining onsite. Early on, only the two aroclors (1242 and 1260) were the target for PCB analysis. Because of the nature of the material sent to the site, these were the only aroclors expected to be found at the site. When sufficient ground water was present to allow for sampling from site wells, these two were consistently analyzed. For the 1996 ground water monitoring events, samples were analyzed for all PCB aroclors. During each round of sampling, an attempt was made to acquire samples for each of the contaminants of interest. PCBs were sampled if sufficient water existed in a well for sampling. In some instances, a well was dry and no samples were taken. In other instances, there was not sufficient water to collect filtered samples; and in other instances, there was only sufficient water to sample for the VOCs. The lack of sufficient ground water to collect required samples is an illustration of the limited quantity of ground water in the overburden at the site.

5. The state has raised an issue as to whether or not PCBs have contaminated the shallow ground water system because early sampling and analysis revealed PCBs in the ground water from most of the wells. The RCSC and EPA believe the PCBs found in these samples were caused by PCB-contaminated dust/soil entering the samples while they were being obtained. The state's position has been that since air monitoring at the site did not detect PCBs, the presence of PCBs in water samples could not have been the result of surface dust/soil cross-contamination. The two conditions are not mutually exclusive. The early samples were taken and handled close to the ground in the area of the monitoring wells. The soils around the monitoring wells were contaminated with

PCBs. The fact that the monitoring devices in the breathing zone did not pick up contaminated dust from the site does not mean that when the sampling event was taking place the ground level dust/dirt/soil was not disturbed sufficiently to contaminate the sample. The absence of PCB contamination in well samples after extreme measurers were taken to limit such cross contamination supports the RCSC's and EPA's conclusion that the early ground water samples likely became cross-contaminated with surface dust/soil.

6. Only one well on the site, MW211, demonstrates an increase in VOCs in the ground water, and for only one contaminant, trichloroethylene (TCE). The increase appears to reverse with the 6/96 sample. The ground water analytical values for TCE were: in 1989, 180 ppb; in 7/95, non-detect; in 10/95, 380 ppb; in 3/96, 720 ppb; and in 6/96, 550 ppb. In all other ground water wells, VOCs are decreasing or remaining at the same levels. Even though some wells showed similar levels of VOCs over time, there still is no threat to human health or the environment due to the lack of sufficient exposure to any receptor. The lack of ground water in the monitoring wells which has prevented consistent sampling during implementation of the monitoring system program also demonstrates that ground water at this site does not present a completed pathway for exposure.

Affirmation of the Statutory Determinations

Considering the new information that has been developed and the changes that have been made to the selected remedy, the EPA believes that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective.

Public Participation Activities

1. As previously noted, the Administrative Record containing the information relied upon in reaching the decision to terminate the ten-year ground water monitoring requirement will be available at the Holden City Hall and EPA's Region VII Office.

2. At this time, a public information meeting to discuss this Explanation of Significant Difference is not planned. However, EPA may choose to hold a public meeting for the decision contained herein if sufficient public interest is expressed for such an informational meeting.

ESD approval _____ 11-25-98
Dennis Grams, P.E. Date
Regional Administrator

ESD disapproval _____ _____
Dennis Grams, P.E. Date
Regional Administrator